



ATTORNEY'S DOCKET NUMBER: 2003320-0032

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Jarrell, Kevin A., *et al.*
Serial No.: 09/910,354
Filed: July 20, 2001
For: MODULAR VECTOR SYSTEMS

Examiner: Vogel, Nancy
Group Art Unit: 1636

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

STATEMENT UNDER 37 CFR § 1.821

Applicant encloses herewith a paper copy and a computer-readable diskette copy of the Sequence Listing required under 37 C.F.R. § 1.821 - § 1.825 for the above-referenced patent application. Applicant also encloses a copy of the Raw Sequence Listing Error Report mailed August 25, 2004.

The undersigned states that the content of the paper copy of the Sequence Listing is identical to the information contained in the computer-readable diskette copy.

Please charge any fees that may be required or credit any overpayments to our Deposit Account No. 03-1721.

Respectfully submitted,

Valarie B. Rosen
Registration Number: 45,698

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Dated: *Feb 25, 2005*

3700833

Certificate of Mailing

I certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450

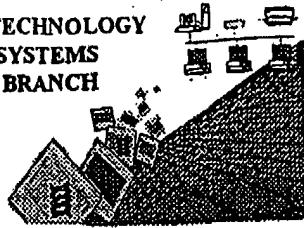
2-2505 *Cathy A. O'Brien*
Date Signature

Cathy A. O'Brien
Typed or Printed Name of person signing certificate

BEST AVAILABLE COPY



BIOTECHNOLOGY
SYSTEMS
BRANCH



RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/910,354
Source: TEW16
Date Processed by STIC: 5/28/04

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT
MARK SPENCER, TELEPHONE: 571-272-2510; FAX: 571-273-0221

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER
VERSION 4.2 PROGRAM ACCESSIBLE THROUGH THE U.S. PATENT AND
TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

<http://www.uspto.gov/web/offices/pac/checker/chkrnote.htm>

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<http://www.uspto.gov/ebc/efs/downloads/documents.htm>), EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
3. Hand Carry, Federal Express, United Parcel Service, or other delivery service (EFFECTIVE 06/05/04): U.S. Patent and Trademark Office, 220 20th Street S, Customer Window, Mail Stop Sequence, Crystal Plaza Two, Lobby, Room 1B03, Arlington, VA 22202

Revised 05/17/04



Raw Sequence Listing Error Summary

ERROR DETECTED

SUGGESTED CORRECTION

SERIAL NUMBER:

09/910,354

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE

1 Wrapped Nucleic
 Wrapped Aminos The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to 3; this will prevent "wrapping."

2 Invalid Line Length The rules require that a line not exceed 72 characters in length. This includes white spaces.

3 Misaligned Amino
 Numbering The numbering under each 5th amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.

4 Non-ASCII The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.

5 Variable Length Sequence(s) contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.

6 PatentIn 2.0
 "bug" A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s). Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.

7 Skipped Sequences
 (OLD RULES) Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence:
(2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
 (i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading)
 (ii) SEQUENCE DESCRIPTION: SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
This sequence is intentionally skipped
Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.

8 Skipped Sequences
 (NEW RULES) Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence
<210> sequence id number
<400> sequence id number
000

9 Use of n's or Xaa's
 (NEW RULES) Use of n's and/or Xaa's have been detected in the Sequence Listing.
Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present.
In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.

10 Invalid <213>
 Response Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or is Artificial Sequence.

11 Use of <220>
 Sequence(s) missing the <220> "Feature" and associated numeric identifiers and responses.
Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section.
(See "Federal Register," 00/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)

12 PatentIn 2.0
 "bug" Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.

13 Misuse of n/Xaa "n" can only represent a single nucleotide; "Xaa" can only represent a single amino acid



IPW16

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/910,354

DATE: 05/28/2004
TIME: 13:27:24

Input Set : A:\PTO.YF.txt
Output Set: N:\CRP4\05282004\I910354.raw

3 <110> APPLICANT: Jarrell, et al., Kevin
5 <120> TITLE OF INVENTION: Modular Vector Systems
7 <130> FILE REFERENCE: 2003320-0032
9 <140> CURRENT APPLICATION NUMBER: 09/910,354
10 <141> CURRENT FILING DATE: 2001-07-20
12 <160> NUMBER OF SEQ ID NOS: 24
14 <170> SOFTWARE: PatentIn version 3.2
16 <210> SEQ ID NO: 1
17 <211> LENGTH: 23
18 <212> TYPE: DNA
19 <213> ORGANISM: PCR primer EU-1 for amplification of a vector fragment containing
W--> 20 bacterial origin of replication, Lac I gene, and pT7 promoter.
22 <400> SEQUENCE: 1
23 cauggttatat ctccttctta aag ↑ mandatory, <213> Response
26 <210> SEQ ID NO: 2
27 <211> LENGTH: 22
28 <212> TYPE: DNA
29 <213> ORGANISM: PCR primer Eu-2 for amplification of a vector fragment containing
W--> 30 bacterial origin of replication, Lac I gene, and pT7 promoter.
32 <400> SEQUENCE: 2
33 cucatgacca aaatccctta ac
36 <210> SEQ ID NO: 3
37 <211> LENGTH: 22
38 <212> TYPE: DNA
39 <213> ORGANISM: PCR primer EU-3 for amplification of a vector fragment containing Amp
W--> 40 gene.
42 <400> SEQUENCE: 3
43 gagattatca aaaaggatct tc
46 <210> SEQ ID NO: 4
47 <211> LENGTH: 20
48 <212> TYPE: DNA
49 <213> ORGANISM: PCR primer EU-4 for amplification of a vector fragment containing Amp
W--> 50 gene.
52 <400> SEQUENCE: 4
53 uaactagcat aacccttgg
56 <210> SEQ ID NO: 5
57 <211> LENGTH: 21
58 <212> TYPE: DNA
59 <213> ORGANISM: PCR primer 5' Lac Z for amplification of an insert fragment containing
W--> 60 Lac Z gene.
62 <400> SEQUENCE: 5
63 augaccatga ttacgccaac g
66 <210> SEQ ID NO: 6

pls see item 7, error sheet
Does Not Comply
Corrected Diskette Needed
pls move this response to line 223 (pg. 1-4)
pls move this response to line 223 (pg. 1-4)

INVALID
<213> Response
has to be given artificial
UNKNOWN OR Genus/species.
<213> Response

SAME ERROR 22

SAME error 22

SAME error 20

SAME error 21

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/910,354

DATE: 05/28/2004
TIME: 13:27:24

Input Set : A:\PTO.YF.txt
Output Set: N:\CRF4\05282004\I910354.raw

SAME
ERRORS

67 <211> LENGTH: 22
68 <212> TYPE: DNA
69 <213> ORGANISM: PCR primer 3' Lac Z for amplification of an insert fragment containing
4--> 70 Lac Z gene.
72 <400> SEQUENCE: 6
73 uuacaatttc cattcgccat tc 22
76 <210> SEQ ID NO: 7
77 <211> LENGTH: 37
78 <212> TYPE: DNA
79 <213> ORGANISM: PCR primer 5' OST for amplifying an Ori fragment from pET 19 b.
81 <400> SEQUENCE: 7
82 ctgctaagtg agcucgacag atcgctgaga taggtgc 37
85 <210> SEQ ID NO: 8
86 <211> LENGTH: 36
87 <212> TYPE: DNA
88 <213> ORGANISM: PCR primer 1N 3' Ori(s) for amplifying an Ori fragment from pET 19b.
90 <400> SEQUENCE: 8
91 aagcttgcta agtagggcggt ttttccatag gctccg 36
94 <210> SEQ ID NO: 9
95 <211> LENGTH: 36
96 <212> TYPE: DNA
97 <213> ORGANISM: PCR primer 1NT5'KAN for amplifying a fragment containing the kanamycin
4--> 98 resistance gene from pCR2.1 topo.
100 <400> SEQUENCE: 9
101 ctaccttagca agtctuctatc tggacaaggg aaaacg 36
104 <210> SEQ ID NO: 10
105 <211> LENGTH: 41
106 <212> TYPE: DNA
107 <213> ORGANISM: PCR primer T73' KAN for amplifying a fragment containing the
kanamycin
4--> 108 resistance gene from pCR2.1 topo.
110 <400> SEQUENCE: 10
111 ccctatagtg agtcgttatta aggcgaaaac tctcaaggat c 41
114 <210> SEQ ID NO: 11
115 <211> LENGTH: 42
116 <212> TYPE: DNA
117 <213> ORGANISM: PCR primer tcs1 for amplifying a fragment containing the luciferase
gene
4--> 118 from pG1 II basic.
120 <400> SEQUENCE: 11
121 ttaatacgtac tcaactatagg gatgaaagac gccaaaaaca ta 42
124 <210> SEQ ID NO: 12
125 <211> LENGTH: 36
126 <212> TYPE: DNA
127 <213> ORGANISM: PCR primer tc58 for amplifying a fragment containing the luciferase
gene
4--> 128 from pG1 II basic.
130 <400> SEQUENCE: 12
131 gagctcaactt agcagttaca attggactt tccgccc 36
134 <210> SEQ ID NO: 13
135 <211> LENGTH: 36
136 <212> TYPE: DNA

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/910,354

DATE: 05/28/2004
TIME: 13:27:24

Input Set : A:\PTO.YF.txt
Output Set: N:\CRF4\05282004\I910354.raw

N/SAME
ERRORS

137 <213> ORGANISM: PCR primer 1NT 5'KAN for amplifying a fragment containing the anamycin

--> 138 resistance gene from pCR 2.1 topo.

140 <400> SEQUENCE: 13
141 ctaccttagca agctuctatc tggacaaggg aaaaacg
144 <210> SEQ ID NO: 14
145 <211> LENGTH: 33
146 <212> TYPE: DNA

36

147 <213> ORGANISM: PCR primer 1NT 3'KAN for amplifying a fragment containing the anamycin

--> 148 resistance gene from pCR 2.1 topo.

150 <400> SEQUENCE: 14
151 gagctcaattt agcaaggcgaa aaactctcaa gga
154 <210> SEQ ID NO: 15
155 <211> LENGTH: 37
156 <212> TYPE: DNA

33

157 <213> ORGANISM: PCR primer 1NT5' Ori for amplifying a fragment containing the Ori

rom

--> 158 pET 19b.

160 <400> SEQUENCE: 15
161 ttgctaagtggcgtt atcgctgaga taggtgc
164 <210> SEQ ID NO: 16
165 <211> LENGTH: 36
166 <212> TYPE: DNA

37

167 <213> ORGANISM: PCR primer 1NT5' Ori(s) for amplifying a fragment containing the Ori

rom

--> 168 pET 19b

170 <400> SEQUENCE: 16
171 aagcttgctaaatggcgatccatag gctccg
174 <210> SEQ ID NO: 17
175 <211> LENGTH: 37
176 <212> TYPE: DNA

36

177 <213> ORGANISM: PCR primer 3nt 5'OST for amplifying an Ori fragment.

179 <400> SEQUENCE: 17

180 ctgctaagtggcgtt atcgctgaga taggtgc
183 <210> SEQ ID NO: 18
184 <211> LENGTH: 36
185 <212> TYPE: DNA

37

186 <213> ORGANISM: PCR primer 3nt 5'OST for amplifying an Ori fragment.

188 <400> SEQUENCE: 18

189 aagcttgctaaatggcgatccatag gctccg
192 <210> SEQ ID NO: 19
193 <211> LENGTH: 36
194 <212> TYPE: DNA

36

195 <213> ORGANISM: PCR primer 3nt 5'KHT for amplifying a KAN fragment

197 <400> SEQUENCE: 19

198 ctacccatggcgtt atcgctgaga taggtgc
201 <210> SEQ ID NO: 20
202 <211> LENGTH: 35
203 <212> TYPE: DNA

36

204 <213> ORGANISM: PCR primer 3nt 3'KST for amplifying an Ori(s) fragment.

206 <400> SEQUENCE: 20

207 gagctcaattt agcaggcgaa aaactctcaa ggttc

35

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/910,354

DATE: 05/28/2004
TIME: 13:27:24

Input Set : A:\PTO.YF.txt
Output Set: N:\CRF4\05282004\I910354.raw

✓ SAME
ERRORS

```

210 <210> SEQ ID NO: 21
211 <211> LENGTH: 37
212 <212> TYPE: DNA
213 <213> ORGANISM: PCR primer 1NT 5'ORI for amplifying an Ori(s) fragment.
215 <400> SEQUENCE: 21
216 ttgctaagt agctcgacag atcgctgaga taggtgc 37
219 <210> SEQ ID NO: 22
220 <211> LENGTH: 36
221 <212> TYPE: DNA
222 <213> ORGANISM: PCR primer 1NT3' Ori(s) for amplifying an Ori(s) fragment.
224 <400> SEQUENCE: 22
225 aagcttgcta ggttagggcgt ttttccatag gtcgg 36
228 <210> SEQ ID NO: 23
229 <211> LENGTH: 36
230 <212> TYPE: DNA
231 <213> ORGANISM: PCR primer 1NT 5'KAN for amplifying an KAN fragment.
233 <400> SEQUENCE: 23
234 ctaccttagca agctuctatc tggacaaggg aaaacg 36
237 <210> SEQ ID NO: 24
238 <211> LENGTH: 33
239 <212> TYPE: DNA
240 <213> ORGANISM: PCR primer 1NT3'KAN for amplifying an Ori(s)
242 <400> SEQUENCE: 24
243 gagctcactt agcaaggcga aaactctcaa gga 33

```

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/09/910,354

DATE: 05/28/2004
TIME: 13:27:25

Input Set : A:\PTO.YF.txt
Output Set: N:\CRF4\05282004\I910354.raw

Invalid Line Length:

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:11; Line(s) 117
Seq#:12; Line(s) 127

VERIFICATION SUMMARY
PATENT APPLICATION: US/09/910,354

DATE: 05/28/2004
TIME: 13:27:25

Input Set : A:\PTO.YF.txt
Output Set: N:\CRF4\05282004\I910354.raw

L:20 M:259 W: Allowed number of lines exceeded, <213> ORGANISM:
L:30 M:259 W: Allowed number of lines exceeded, <213> ORGANISM:
L:40 M:259 W: Allowed number of lines exceeded, <213> ORGANISM:
L:50 M:259 W: Allowed number of lines exceeded, <213> ORGANISM:
L:60 M:259 W: Allowed number of lines exceeded, <213> ORGANISM:
L:70 M:259 W: Allowed number of lines exceeded, <213> ORGANISM:
L:98 M:259 W: Allowed number of lines exceeded, <213> ORGANISM:
L:108 M:259 W: Allowed number of lines exceeded, <213> ORGANISM:
L:118 M:259 W: Allowed number of lines exceeded, <213> ORGANISM:
L:128 M:259 W: Allowed number of lines exceeded, <213> ORGANISM:
L:138 M:259 W: Allowed number of lines exceeded, <213> ORGANISM:
L:148 M:259 W: Allowed number of lines exceeded, <213> ORGANISM:
L:158 M:259 W: Allowed number of lines exceeded, <213> ORGANISM:
L:168 M:259 W: Allowed number of lines exceeded, <213> ORGANISM:

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